

AMERICAN
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★ THE MOTION PICTURE CAMERA MAGAZINE ★

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FOREIGN 35c

In This Issue...

Cameramen in Uniform

Artistic Pictures



**October
1943**



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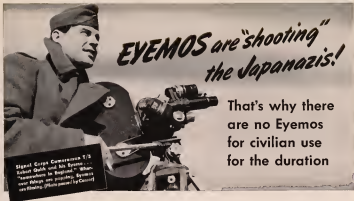
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 34

OCTOBER, 1945

NO. 10

CONTENTS



The Evolution of Transparency Process Photography	By FANCY EDWARDS, ABC	359
The Sixth Sense in Film Mechanics	By HAL HALL	361
Cameramen in Uniform	By LIEUT. ARTHUR E. ARLING, USNR	362
The New Mitchell Background Projector	By E. J. TIFFANY	363
Marines Learn Photography in Hollywood		364
Hands Are Nice to Hold—That's All	By JAMES N. DOUGLITTLE	365
Third Dimensional Films in Soviet Union	By MICHAEL KALATOSOFF	366
Keep on Filming—Economically	By JAMES E. OSWALD	367
Artistic Pictures in Wartime	By F. W. PRATT	368
Saving Film in Wartime		370
Among the Movie Clubs		370
Railroad Rarities	By F. M. HUNT	377



The Front Cover

This month's cover takes us somewhere in the South Pacific with combat cameramen. It shows a camera crew in action, photographing whatever is going on right then up in the skies. Behind the camera is Lieut. Arthur E. Arling, USNR, member of the American Society of Cinematographers, who has an article in this issue. At his left is Keith Wheeler, Chicago Times war correspondent.

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Illustration from Walt Disney's cartoon, "MICKY THROUGH AIR POWER." Inset: Alexander P. is a Secretary's handwriting book.

*FANTASY OF FACTS...

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VENDOR

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The Evolution of Transparency Process Photography

By FARCIOT EDOUARD, A. S. C.



IT'S like Topsy, it just grew, and from an engineering viewpoint, the Transparency or projected-background process of special-effects cinematography, got off to a most unfortunate start. It was never invented, in the strict sense of the word—much less engineered. It just simply happened. And from its earliest beginnings, it had to take off its coat and go to work, with no opportunity for being engineered into a technologically streamlined coordination of methods and equipment.

For quite a number of years before the process became a reality, many of us throughout the industry who had been speculating on what used to be called "back photography" had been thinking how valuable it would be if we could project a moving picture onto a translucent screen behind our set and actors, and photograph these two elements in such a way as to produce the illusion that the projected background was an real and as much a part of the composite scene as the actual foreground and actors. But we could only dream of it. Three key factors were lacking to make the dream into reality. We needed a simple, non-mechanical method of synchronizing the background projector and the foreground camera. We needed negative amplifiers of sufficient sensitivity to enable us to record the back-projected picture. And we needed optics and light sources of increased power to enable us to get a brighter image through our background screens.

Then, some twelve or fourteen years ago, all of these things were, in relatively quick succession, thrown into our laps. The advent of sound gave us a variety of simple electrical hook-ups for interlocking camera and projector. The first "super-sensitive" panchromatic emulsions gave us the increased film-speed we needed. The projection requirements of increasingly large theatres improved the optics and light sources available for projection, and the still greater projection requirements of the wide film fury of eleven years ago completed the development.

We had what we wanted!

Inevitably, individuals in several different studios threw these various units together as best they could, and started

making back-projection shots. That the results were successful is probably more to the credit of the skillful craftsmen who operated this pioneer equipment than to any enduring merit of the equipment itself.

Still, the many-fathered idea worked. It worked so well, in fact that the transparency or back projection process immediately became a very vital adjunct to production. To a very great extent it eliminated long location-trips, with all the increased costs and hazardous delays such trips involve. It summarized the need for hiring a full-sized ship and, with technicians and cast aboard, cruising expensively up and down the seas in search of the right combination of backgrounds and weather. It completely eliminated the technical difficulties and not infrequent dangers involved in making by straightforward methods scenes showing our actors riding horses, autos, airplanes, speedboats, and the like. It afforded complete control of lighting on all of these scenes.

In a word, it conformed ideally to the industry's ever-present ideal of getting the best possible picture under the most completely controllable conditions, and with a minimum of time, expense and danger.

No wonder, then, that ever since, the industry's use of this process has constantly increased. In 1933—the last year before the introduction of this process, my own department made 140 composite process shots. The following year, using the projection process, this figure was more than doubled, while the cost per scene was reduced. Within two years, this figure was itself doubled, while economy and effectiveness advanced. And every year since then, we have had to make more and more transparency shots. Today, hardly a picture goes out without some of these scenes in it.

Moreover, producers and directors constantly pressed us to give them greater scope, through the use of larger and yet larger screens. When the process was first used, a scene inside a closed car, with a screen six or eight feet wide was something to be happy about. But before long, demand had forced us to find ways of using screens 12, 15, 18 and 20 feet across. But still came the cry for greater and yet greater scope. When we succeeded in using a 24-foot screen, we had already demands for shots that would call for a 36-foot screen. My most recent scenes made use of two screens totalling 48 feet in width—and the end is not yet!

From an engineering viewpoint, this was decidedly all wrong. Our equipment was not engineered to do this work, and certainly the different components were not engineered to work together as a unit. All of us in this field necessarily had had to build our own equipment. We would usually take the best projector-head we could get and equip it with a camera-type pilot-gun movement. Some of us used Bell & Howell movements, some used Mitchell's; all were readapted to this service as best we could.

It was the same way with projection lenses—projector lamphouses—electrical control systems, and everything. Though finely made, the best equipment in any studio was an engineering makeshift. It was an engineering miracle that they performed as well as they did.

The manufacturers of the various com-

(Continued on Page 182)



The Sixth Sense In Film Mechanics

By HAL HALL

WE present here the news about an invention that may revolutionize film music and open thus far unexplored realms of dramatic organic beauty.

The greatest artists such as Leonardo da Vinci, Michelangelo, Durer and others, were unanimous in realizing that all forms of art spring from the same purpose and are subject to a common law. The knowledge of this law permits the establishing of a link between diverse manifestations of art. Savants such as Helmholtz, for example, believed that it would be possible to establish rules analogous to those of counterpoint in drawings and architectural structures.

With the scientific attempts of Fraenkel to interpret music by forms, we now associate a new effort by Dr. Dmitri Marianoff, former assistant of Professor Albert Einstein, and his collaborator, Engineer A. van Hulst, to capture music from visible forms.

"Like musical harmony, architecture, paintings and sculpture are also subject to the laws of counterpoint," Dr. Marianoff explains. "The transformation of complicated architectural designs into film registration would reconstitute a synthesis of sound waves and the mass, obtained would be but a synthesis of the real signs inherent in the work of art it represents. Although this would leave the composer a certain freedom for creation, he would, however, always have as a point of departure the given form. Thus, his music would always retain the inspiration of the work of art it represents."

"Helmholtz already had the idea of 'sonore ornament', he had discovered it mathematically but had no means at his disposal of representing sound graphically. He was able to make the connection between architecture and the fundamental base, but was unable to base this on physical facts."

"Today, by the use of the new invention, music can be produced from ornaments and forms."

"The inquiry of relationship of music and architecture, music and paintings, has been sensed throughout the ages. Now we can have the proof on film of these ancient affirmations. The mystery of 'geometrical music' in the works of Leonardo da Vinci, Durer, Rembrandt, can now be explained. The way in which

Pythagoras used to establish his theory of harmony proves that even the ancients showed like tendencies, which manifested themselves by repetition of certain proportions."

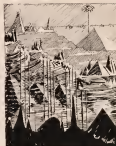
"During the Renaissance the 'Treaty of Painting' by Leonardo or the work of Durer on the art of measurements and proportions of the body, were the object of theoretical studies."

Dr. Marianoff and Hulst plan to make a series of films in which they will show how music can be captured from forms. They intend to illustrate the composition of Raphael's masterpiece, "Sistine Madonna", which rests on the principle of the pentagram and other perfect proportions. Along with the graphic development, or rather grapho-tonic development, one would cause the corresponding sounds to ring out while the geometrical figures were being built up. The first film planned by the inventors will be called "The Song of the Modern City".

"Film music as it is today is not organically tied with the collective film arts," explains Dr. Marianoff.

"An arranger, led by the mood of single scenes and the general theme of a picture, usually takes 'freely' from the library of world music that, which in his imagination is associated with the plot or scenery of the picture—ignoring the logical unity with which the original composer has built his creation, the arranger takes a part of such a composition, blends it with parts of works of other composers and makes the musical background for the film. This professionally well-prepared and pleasant accompanying music does not disturb the spectator's ear and helps him direct the pictorial flow. Large studios, when making an expensive picture, often put into the hands of a suitable composer the writing of his own music. In most cases this is only a finer 'illustration' of the plot. It happens rarely, as in the case of George Gershwin and a few other composers, that a composition is of creative value; but through its own dominating value, this music comes to the foreground as an independent factor. Instead, music should be an organic part of the motion picture in 'natural' union with acting, sound, color, photography, etc."

"Just as thoughts are voiced through the spoken word, so the silent forms of



Top of page: Raphael's famous painting, Sistine Madonna.

Opposite page, this drawing shows the graphic development of geometrical figures symbolizing Raphael's paintings, and is the first step toward the musical transcription of the master's sacred studies.

Below, Dürer's painting—Sonata of Pyramus—How the artist's silent painted music in canvas

reliefs, architecture, painting and all the visible laws of the universe that he before our eyes—can be heard."

"... the marble blocks of a Greek Temple, its ornamental, dancing priestesses, Egyptian pyramids, landscapes, the colonnades of Pompeii—all this can be heard. Music, dominant in the architecture of Islam, India and China... in the Gothic domes and windows and facades—can be awakened to sound."

"The noted Lithuanian artist, Telukars, believed that the painted music on canvas... How good it would be to

(Continued on Page 384)



Cameramen In Uniform

By LIEUT. ARTHUR E. ARLING, U.S.N.R.

Member American Society of Cinematographers

THIS is not to be an eye-witness account of the Battle of the Coral Sea or the Battle of Midway, as those battles have been covered by notable writers than myself and at a time when they were headline news. Rather, I shall endeavor to pass along for what interest and value they may be my experiences with the photographic equipment used in covering these battles.

While engaged in making a factual photographic report for the Navy Department on the damage inflicted on our Hawaiian military and naval establishments by the Japanese attack of December 7, 1941, I received orders from my commanding officer, Comdr. John Ford, to board a heavy cruiser which was bound for the Coral Sea area in the South Pacific, where the Japs were still making unchecked progress in their invasion of the Solomon and other South Sea Islands.

I reported aboard with one photographic specialist, Stephen M. Newman, Sp5(P), USNR, to assist me. Our camera gear consisted of one Mitchell camera, one Eyemo and two 16mm magazine-loading Cine-Kodaks, with accessories and film.

As soon as we were quartered, I began a tour of the ship seeking suitable camera positions. It was at once apparent that a modern battle cruiser, bristling as it is with anti-aircraft batteries, provides little space for possible camera setups. After trying several crowded places I finally decided to place the Mitchell on a machine gun platform high on the mainmast above the flying bridge and just below the sky lookout. Here in a space where four 50 cal. machine guns had been replaced by two of the new 20mm's, I found just room to set my tripod and maintain an angle of view of about 230°.

To be ever ready for that call to general quarters that came when we were in heavy waters several times a day, we kept the Mitchell threaded at all times, neatly removing it intact from the tripod, which was left standing, and slaving it as a unit in a ready ammunition box which being of double compartment construction, provided protection from the tropical heat as well as the tropical showers. To cover action as it might occur at other parts of the ship, I relied on the Eyemo and the two Cine-Kodaks. One Cine and

the Eyemo I kept in the chart room on the bridge, and the other Cine I kept in my quarters, the object, always to have a camera at hand.

The Navigation Officer was kind enough to give us space to stow our film in the chart room which was heavily insulated and remained quite cool even when other parts of the ship were sweltering hot. I preferred the even temperature of this room to the extreme cold of the only available refrigerators. We dehydrated both our 35mm. plus X and our 16mm. Kodachrome, and experienced no trouble, although our film was not developed until several weeks later. We found that an empty powder bag container from the 8 inch guns made an ideal dehydration chamber. It was just the right size to take the 400 ft. roll and could be sealed airtight. Incidentally, the ship used these containers to stow emergency muzzes aboard the life rafts.

My selection of lenses proved adequate, the wide angle 28mm. and 35mm. being available when shots involving men in action aboard our own ship were desired. The long focal 18 inch lens when reaching for action far away. The Akoley head proved its worth particularly when under fire. When the 8 inch sea-cock batteries let go, supplemented by the 11 pom-poms and the 20 mm's, you think all hell has broken loose. The camera does a dance (incidentally don't tie your camera down tight or the concussion will splinter the tripod), the noise penetrating the cotton stuffed in your ears rises to a deafening crescendo, and the concussion seems to hit you in the ribs with such rapidity that you feel as though you were a punching bag being pummeled by an expert. At such times the good old Akoley gave head jays off as a stabilizer.

The 16mm. Cine-Kodaks proved best for following dive bombing because the planes coming as they do from right over head and usually directly out of the sun are out of reach with a camera on a tripod. Hand-held and using lenses up to a 4 inch, usable film was secured. Shooting Kodachrome in the 16's and later blowing the shots up to 35mm. gave image size equal to a 16 inch lens.

Much good can be said for the use of the 16mm. equipment for combat photography. Namely, its compact size and light weight. The 2½ to 1 ratio between 16mm. and 35mm. film means less weight and bulk so that a greater supply can be carried. The same 2½ to 1 ratio also applies to the focal length of lenses resulting not only in the reduced size and weight but making possible shots with hand held cameras that would be impossible with 35mm. cameras direct.

In spite of the customary news story in which the news correspondent describes battle action with planes crashing and ships sinking right under their very noses, it has been my experience that a sea battle may be scattered over several hundred square miles of ocean with

(Continued on Page 265)



Above, front view of the new Mitchell background projector.

The New Mitchell Background Projector

By E. J. TIFFANY*

THE Mitchell Camera Corporation has just completed its first complete portable background projector and has delivered it to the U. S. Naval Science Laboratory, Annapolis, D. C.; another is under construction for the Russian Government. One of the outstanding features of the Mitchell background projector is the silent operation which eliminates the use of a booth or a blimp. Another one of the many advantages of the Mitchell background projector is the compensating link movement. When the projector is operated at a normal distance from the background screen, no noise is picked up by the sound system.

The projector head consists of a film moving mechanism, upper and lower one thousand foot magazines, and interlocking motor drive system, all mounted on the base plate of the stand. The projector head can be rotated 180° from the vertical position while in operation

thousand foot roll of film.

In front of the film mechanism is a by releasing the locking lever. The projector head is equipped with Bessick and Lamb raw series 1/2 vapor chlorine lenses. The lens can be focused by remote control by the cameraman; this is accomplished by means of a Selsyn motor. It can be manually focused by the projector operator. The shutters of the projector and camera are synchronized by releasing the lock lever at the base of the projector and rotating the ERPI 230-volt interlocking motor. The threading of the projector head is comparable to the threading of any Mitchell sound camera. The movement can be released by two levers, removed and replaced by an auxiliary aperture plate for lining up the arc and size of the picture to be projected on the screen.

The magazines are equipped with a reverse clutch which allows the projector to be operated both backwards and forwards. The clutch can be adjusted to the proper tension to take up a

condenser-water-cooled cell in contraband to eliminate excessive heat on the film. There is a four-way switch which

(Continued on Page 370)

* Mitchell Camera Corporation Engineer

Marines Learn Photography in Hollywood

UNDER the sponsorship of the Research Council of the Academy of Motion Picture Arts and Sciences, Hollywood's top cameramen have trained combat cameramen for the Signal Corps and the Marine Corps. Specially selected men of the service are sent to Hollywood and receive a thorough course of instruction and then go back to the battle fronts on their assignments.

Recently a class of Marine cameramen were graduated from this school, and here are some photographs of their school activities. At top left Technical Sergeant Alfred W. Rohde, Jr., is being congratulated by John Arnold, A.S.C., head of the MGM Camera Department. Left center a studio technician shows how lenses should be cleaned. Bottom left, John Arnold instructs a class in use of 35mm. professional camera. Top right, John Arnold and Alvin Wyckoff, A.S.C., give class instructions for the day's shooting. Bottom right, Mr. Wyckoff gives instruction with the aid of a slide projector.

Cameramen of our armed services who have been trained in the Hollywood studios by Hollywood cameramen, under the sponsorship of the Academy, are now seeing action at every fighting front. And reports show that they are doing a magnificent job.





HANDS ARE NICE TO HOLD—THAT'S ALL

By JAMES N. DOOLITTLE

THROUGH a couple of decades of association with what we facetiously refer to as "the industry," I have probably photographed most of the great names. If you want a brief biographical note, I was by diligent application, selected about the time Gail Henry was a popular comedienne and Lombardi Boulevard furnished the locale for systematic wrecking of automobiles. They hadn't yet torn down the "Intolerance" sets at Sunset and Santa Monica. C. B. DeMille was still wearing his Lasky Guard uniform and was signing edicts on the Otto K. Olsen lot as "by order of the Director General."

So, you see, I go "way back. But who cares!

Those were the good old days when we worked only fifteen or twenty hours, and were usually held off several Christmas, and the Collector of Internal Revenue stamped our returns "No Sale."

The "great names" have either grizzled, grained or glowered at my lens. Jack Loe reflected the weight of some thousand—even million—of dollars. I have known some of them in pet, pro and post glaucous days, and their secrets are as secure in the archives of my memory as is the column of Winchell or Filler.

Each individual has had some very good reasons for taking up my lens—most have had several good reasons, chiefly facial and anasthetized.

We ain't work this into a clinical dissertation, but for the moment let's direct the feminine assembly. Easily and quickly done—face, legs and Hays office.

All right, the girl has a face. This is an area devoted to the application of nearly everything advertised in the way of arguments, salves, balms or facial cocktails. Up on top there's a growth which supports an industry, and often a loose interpretation of the name, "hat."

Just south of the chin is the neck—neat, not verk.

Continuing southward we encounter the International Hays Lane. This is distributed in an easterly and westerly direction in two parts. Manufacturers of sweaters have, we suspect, a mercenary interest in the circumstance.

Continuing in the geographical analysis—"Approaching the tropics is the lower torso.

The gals wear girdles.

So it wasn't as mere so?" Aaaa.

From it sprouts a couple of appendages which are used to excise Rayon, Nylon or Dacron, depending upon priorities, necessities or just "ortins." We call them legs for want of a more poetic nomenclature.

Then, way down beyond the tropic of Capricorn comes feet. Feet are terribly necessary. They are used to put shoes on. They are also used to take shoes off. Ladies shed defy certain fundamental laws, dealing with the state-



Upper left, an artistic photograph of hands. Upper right, Loretta Young's hands from a graceful end of the picture. And next, a pair of hands artistically used as an illustration for a nationally advertised lotion. All photos by the author.

ment that no two masses can occupy the same space at the same time.

I forgot to mention that software from just below the chin extend two tentacles terminating in cotton digital apparatuses known as hands. As a photographer, I wish I could forget them. Hands are nice to have and to hold—but not to photograph.

Mr. Editor, you personally have stood behind my camera, have seen light poured upon a lovely subject. But have you suffered with me while, often in vain, I've

(Continued on Page 379)

Third Dimensional Films In Soviet Union

By MICHAEL KALATOZOV

AMERICA is the birthplace of the greatest art of all time—cinematography.

In its "infancy" it possessed the science of vision, but was deaf, it had a plastic tongue, but had no sound. In due time the child grew up and started to speak, being still aspheric and pale, but when it reached the next phase of development, the child acquired color as well as the best things on earth are appearing now.

This magnificent creation became instrumental in greater knowledge of science and upbringing. Now this art can afford to be wise and silly, gay and tragic, and it has absorbed all that is good and bad in all arts inspired by mankind. One factor, however, is not overcome. That is—space. It still has its forms in two dimensions and wants to be liberated from these chains.

This problem of space has long perturbed the genius of inventors. But that is now solved. Soviet inventors have developed third-dimensional films. Today without aid of optical help, stereoscopic movies without the aid of eye glasses is practically developed for the mass audience in the Soviet Union.

While in the rest of the world research in the sphere of stereoscopic movies was going on in connection with the aid of eye glasses, the Soviet inventors were holding out that the most progressive road would be in liberating the spectator from use of any kind of optical aid. Therefore the leaders of the Soviet movies were supporting the inventor, Semen Ivanov, who discovered a screen with a curve of special geometrical form. The special feature of this screen is that its elements, in the zone, are located beyond the "solving abilities" of the human eye. On this screen we show stereoscopic film, which are photographed by a special method for unlimited numbers of spectators.

Semen Ivanov solved the problem in its principle as early as 1929, but the first stereo screen which was seven meters square was built in 1938 when Ivanov demonstrated it in front of a large audience, showing separate short experimental films.

From this time on, the stereo-movie in the Soviet Union went beyond the limits of laboratory experiments. In 1939, in Moscow, a special movie house was opened where on a large screen (approximately 20 meters square) was shown the first full length stereo-film,

photographed by the director, Alexander Andreyevsky. This film was successfully shown for six consecutive months. Hundreds of thousands of spectators witnessed the unusual sight: birds flying in space all around the auditorium; the juggler's tricks with playballs, bunches of flowers flying over heads of the orchestra and over the aisles and disappearing in the depths of the screen. The fullness of the screen had gone out of existence.

The "first sight" audience consisted of the consulate staff and the diplomatic corps. The unanimous feeling at this presentation was the recognition of the fact that this was the beginning of a new epoch in the art of cinematography. The Soviet Government in recognition of this achievement awarded to Semen Ivanov an honorable title of Laureate of Stalin's Award.

The brutal attack of Germany on the Soviet Union, in June 1941, prevented the Soviet industry from continuing the work of building special movie houses in the large cities throughout the Soviet Union and handicapped the director, Andreyevsky, in shooting new stereofilms. In spite of these factors, however, the work on technical developments and improvements is continuing during the war.

In October 1942, Mr. Semen Ivanov and Alexander Andreyevsky completed the work on a new "Humanized stereo-screen" which intensified the brightness of images as much as nine times. Comparing it with the previous type screen, it eliminated all the shortcomings of the screen. The new invention not only improved the projected images, but gave also the possibility of mass production of this new kind of screen at a comparatively low cost and which requires reasonable technological process.

Like the original invention of Ivanov, the new "light powerful" screen of Ivanov-Andreyevsky was highly praised and was evaluated by many scientific institutions. The outstanding academician, Kapitov, praised it highly.

An important work was going on in the field of "shooting" for stereo-screen. People familiar with the difficulties of stereo-screens know that in the published works on this subject, they meet the complaint that stresses the fact that space cannot be controlled. As an instance: the objects which are intended to project behind the screen are suddenly visible in the auditorium and vice

versa. The object which the producer would like to see appearing in the auditorium projects on the screen against his will. Separate seats distort space and cause a fatigue for the eyes. But these enigmas are common complaints.

Without any exaggeration I state that the Soviet Union has now an entire science about stereoscopic filming. In order to have an idea how fully this science has been developed, one can judge from the fact that Director Andreyevsky had to shoot the best full length film actually without seeing it! He was guided solely by his calculations which he had no opportunity to verify during the process of work by projecting it on the stereo-screen, as this work was completed a few days before the "first sight." Nevertheless, it proved to have no mistakes in it.

Using the clever construction of a new invention of Mr. Schmarzanas, Director Andreyevsky developed a new method of drawing multiple films. This by itself allows the use of it as a weapon for service of multiple cinematography and gives the new effects in this sphere. Without a doubt this successful beginning of a new development will progress in the future and will result in new achievements.

Ivanov and Andreyevsky are waiting only for the appropriate moment when, with the end of the war, conditions will permit them to construct the stereoscopic movie houses, and to produce pictures for these theatres. Their experiences will be helpful to the inventors in this field.

Here in the United States there has been achieved brilliant results in space-sound. We in the Soviet Union follow up the success of American technical workers and musicians who also work in this field on similar problems.

It is highly desirable that the combination of achievements of the Soviet pioneers of stereoscopic movies and the achievements of American specialists in space-sound will mutually contribute and mature this field and combine their factors into one unit which will forecast a new era in cinematography. It is probable that these new steps in cinematography will lay the foundations for a lasting friendship between the two workers in cinematography—the Soviets and the Americans.

NOTE: Mr. Michael Kalatozov, author of the article on this page dealing with the development of third dimensional film in the Soviet Union, is an American in the representation of his government to establish genuine cooperative relations between the film industries of his country and all of the Americas.

Mr. Kalatozov is one of the Soviet's paid film directors. He has directed many films of artistic and documentary nature. Best remembered of his films in America is the one about the famous Soviet hero, V. Chkalov, who first flew over the North Pole to the United States. That film was titled "Wings of Victory."

Due to his varied abilities and engineering knowledge, Mr. Kalatozov has participated in practically every phase of motion pictures, from cinematography to directing and producing. For the last few years he has been the executive director of the Leningrad studios. During the siege of Leningrad he, along with all the citizens, took part in the defense of the city. His present activities are in having about one hundred one co-operative between our film industry and that of his country.—The Editor.



Keep On Filming . . . Economically

By JAMES R. OSWALD

THERE is a vast array of home movie enthusiasts, particularly users of 16mm equipment, who still contend that there is an expensive hobby, indeed. An even greater number of persons, "would be" movie makers, admittedly find the utmost enjoyment in their friends' home movies, but refrain from the pleasure of making their own, because they believe so doing far more costly a proposition than they can afford. "It isn't so much the optical cost," they argue, "it's the upkeep."

Economy of operation always an important item to be considered in the use of any mechanical apparatus, but today there is still a greater problem that confronts many home movie fans, who are determined to keep their cameras grinding for the duration. Yes, even money won't always produce, for the average individual, a supply of those standard reversal films which have proved most popular throughout the years, and are now so rapidly disappearing from the civilian market. How, then, can the ordinary one fan like you or I, who have no princely strings whatsoever, hope to keep supplied with enough film to keep our cinematographic interests aroused, on the home front, and at the same time do so more economically than ever before believed possible? Providing the camera isn't of the magazine loading type, I think I have the solution to this problem, at least for the present time, for those who can content themselves with black-and-white filming only. Are you with me?

Fortunately there is one type film on the market with which few home movie makers are acquainted. This film doesn't come in the customary brightly colored variety, it isn't processed free of charge. Consequently, because of this lack of familiarity, there is little demand for it by the amateur, and a plentiful supply still remains available on most dealers' shelves. This film is nothing new. Motion picture laboratories, for when it was really designed, have used it for years. It is well known in professional circles. The film to which I refer is put out by all manufacturers of the familiar reversal types, such as Eastman, Agfa, and Du Pont, and is called **POSITIVE** film, the name being derived from the fact that its chief laboratory use is in making **POSITIVE** prints for projection from **NEGATIVE** movie films (comparable to ordinary snapshot negatives).

Because of its low cost of less than one cent per foot in either 16 or double 8 millimeter size, positive film has been the cause of much experimentation on my part. I have been intrigued for years with the possibilities of this type film, during which time I have gone deeply into its characteristics . . . noted its advantages and disadvantages . . . its practicality for home use. In my opinion, positive film has remained out of the limelight entirely too long. Through the medium of this article, therefore, I hope to pass on some of my findings to you interested readers who would like to follow through with a little experimenting of your own.



Four photos above are enlargements from frames shot on positive stock by Mr. Oswald.

Since positive film is intended for laboratory use, it isn't speckled, and hence the user must resort to speckling his own. But just as a person puts up with the inconvenience of a street car he has to give cash fare, so also must the movie maker be willing to sacrifice the convenience of the regular daylight loading film in out his shooting expenses in half. It really isn't much trouble at all, though, to take the projection in a darkened room, slip a discarded reel on the second shaft, and speed the entire bulk, positive film, **EMULSION SIDE IN**. A red safe-light, if available, may be used to facilitate handling, without affecting the film.

The camera, too, must always be loaded in the darkroom if the film is wound on a projection reel. If wound on a **SOLID TYPE CAMERA** reel, however, loading **MAY** be carried on in daylight, if preferred, although the first few feet of film which ordinarily serve as a protective leader, will naturally become fogged.

(Continued on Page 372)

Artistic Pictures

By F. W. PRAFT

A MAN with a camera, one or otherwise, covers very wide interests. He observes ocean surges, forest paths, blossoming Spring, brilliant Autumn, sheep pastures and farm life generally. Out of domain he can only select or reject. His field is far more limited than that of the artist who, painting the self same subject may omit something of which he disapproves or include some effect seen elsewhere, but not in the scene before him.

Notwithstanding this drawback, the proper grouping of materials in photographic or screen reproduction is one of the many factors that must be considered by every serious cameraman. For without an understanding of the principles of composition his filming must fail from the artistic standpoint.

The word "composition" was originally used in reference to the amateur painter. "Composers" pictures by bringing together natural objects—architecture, figures, etc.—to produce a subject. The result was a good "composition" or otherwise.

As a result of this practice, photographers are often advised to get their ideas of "composition" by studying work of painters. This must be done with discretion. The best pictures by any medium do not advertise the fact that they have been carefully composed.

Now, if we study carefully and compare photographs that please and satisfy us, we begin to recognize certain common factors. In other words it becomes evident that there are definite means of securing such things as *center of interest, harmony, balance, mood, and so on*. These are the common laws of composition, and professional painters study them very carefully, and the result is "every prospect pleases."

Now take center of interest for instance. First of all we must understand the aim of a picture or photograph. Take a landscape with a single figure. The landscape may be beautiful, interesting, well arranged, and the figure well placed is definitely subordinated to the landscape.

Thus the picture is a landscape with an incidental figure. Make the figure larger and dominate the landscape and you make it a figure subject in a landscape setting. It is neither a landscape with a figure nor a figure with landscape. Result is mental irritation and you condemn the composition. Similarly we mentally reject compositions that are lop-sided, top heavy, over-crowded, confused, vague, empty, formal and so on.

What are the laws of composition—they are simply the foundation on which you build up your picture to make it pleasing and symmetrical, just as an archi-



Fig 3

tect builds his artistic home on a strong framework and solid foundation.

These laws of composition embrace different forms according to the type of picture we wish to construct and its general characteristics. For instance, there is the circular, triangular, pyramidal, diagonal, horizontal, vertical, and so on.

An no matter whether the picture moves or is a still—one or other of these forms is essential in the construction of various types of artistic pictures. To my way of thinking, artistic grouping in movie work can be most effectively arranged and greatly enhances the quality of the film. The professionals are adepts in this direction.

Now let us look at the construction of various pictures.

Scenic pictures are probably of most importance to the average movie-goer. Figure 1 shows the picture-space divided into nine equal rectangles; the dividing lines have four points of intersection, and it is generally found that the main object or motif is best placed about one of these points while a secondary balancing mass may fall on one of the opposite points. The horizontal "thirds" suggest approximate positions for the horizon line, visible or imaginary. The horizon line should not bisect the picture.

Many a landscape subject which looks attractive to the eye is a failure on the screen. It lacks main interest. Interest in a picture depends largely on the lines of the subject matter and if interest is to be held, which is essential, the lines should guide the eye into the picture gradually up to the main point of interest. The "lead in" is usually to the extreme right or left of the bottom third space. The "lead in" may be cleverly disguised, but is generally a track, a

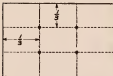


Fig 1



Fig 2



Fig 4



Fig 5

(Continued on Page 372)

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both times

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is the best
by test,
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SAVING FILM IN WARTIME



The above two pictures of film newcomer Joan Crawford serve as excellent example of how to save film in wartime, when everyone is worried over negative shortages. The two photographs are from ONE negative. Seigfried Lay, Hollywood still photographer, shot the full length portrait of Miss Crawford. Then, instead of using another negative to make the close-up, he simply cropped it out of the other negative with his enlarger, thus producing two excellent pictures with but one previous negative.

New Mitchell Projector

[Continued from Page 363]

is controlled by a lever on the side to cut down the size of the projected arc light to the desired size of the projector aperture. A fine shutter is installed in this same mechanism which operates when the projector machine is turned off and on. A threshold light is installed between the water cell and focusing device for lining up the film in frame in the aperture.

The Mitchell projector is equipped with a Precision high vacuum lamp house, 120-180 amperes. The lamp house is equipped with two condensers and is controlled by a switch on the side of the base, an ammeter to control and stabilize the desired amperage; an auxiliary resistor control panel is supplied with this unit.

The projector head and lamp house is mounted on a base plate which can be rotated 360° and tilted 10° up or down and is operated by two control wheels. The lens height when in the low position is fifty-eight inches. It can be raised to seventy-two inches from the floor by the control wheel. On the base plate is mounted a control panel which permits the projector to be operated forwards and backwards independent of the distributor and also to interlock with distributor. The speed of the projector can be controlled by a rheostat while out of interlock.

The complete projector is mounted on a sturdy base which is mounted on four casters to permit the unit to be moved about for different projection distances. The base is equipped with a telescope handle to permit the unit to be readily moved about. When not in use the

handle is concealed under the base. When the desired projection distance is obtained, the casters can be jacked up and the entire unit rests on sturdy screw jacks.

The base of the projector is approximately 64"x44". The height of this unit is 14 feet and weighs approximately two thousand pounds.

This Mitchell background projector is constructed of the same high grade workmanship as all other Mitchell products embodying the latest in engineering development.

Congressional Library Helps

Rare film prints from the archives of the Library of Congress in Washington have been made available to 20th Century-Fox Studios for use in the motion picture, "Woodrow Wilson."

"PROFESSIONAL

JUNIOR" TRIPOD

With Removable Head



*Unsurpassed in Quality,
Versatility and Rigidity*

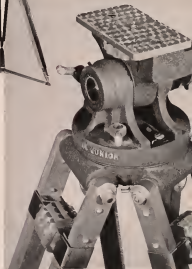


SHIFTOVER ALIGNMENT GAUGE

★ This Shiftover device is the finest, lightest and most efficient available for the Eyemo Spider Turnet prismatic focusing type camera.

★ The male of the Shiftover attaches to the camera base permanently and permits using the regular camera holding handle if desired. The male dovetail mates with the female dovetail base and permits the camera to slide from focusing to photographing positions for parallax adjustment. The camera can be locked in desired position by a positive locking device.

★ The Shiftover has a "stop-bracket" which prevents the camera from sliding off the dovetail base—and is provided with dowel pins which position it to top-plates of tripods having $\frac{3}{8}$ or $\frac{1}{4}$ -20 camera fastening screw.



The New Removable Head "Professional Junior"™

★ The new removable head feature adds great flexibility to the "Professional Junior"™ Tripod. It is now possible to easily remove the type head from the tripod legs base by simple unscrewing a finger-fastening nut. The tripod head can then be mounted on a "Hi-Hat" adaptor for low setups.

The friction type head gives super-smooth pan and tilt action,—and 80° tilt. A generous sized pin and transmission assures long, dependable service. "Spread-leg" design affords almost rigidity and quick position adjustments. A "T" level is built into this super-fine tripod. The top is set for 18mm E.K. Cine Special, with or without motor; 35mm D.B. & H. Eyemo (with motor), and with or without alignment gauge. The head is unconditionally guaranteed 5 years. Literature sent upon request.

* Patent No. 2,318,910.

FRANK C. ZUCKER

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"Professional Junior"™ Tripods, Developing Kits, "Hi-Hat" and Alignment Gauges made by Camera Equipment Co. are used by Navy, Army Air Force, Signal Corps, Office of Strategic Services, Government Agencies—also by many leading National companies and 35mm motion picture producers.

(Continued from Page 347)

Although positive film is intended to be developed "straight," and not to be processed by the usual reversal method, I have found that it CAN be successfully reversed, just as in the case of the regular type film the average movie maker has been accustomed to using. I have noticed on several occasions a third-dimensional quality in positive film which is not duplicated in any of my other black-and-white films. Certain scenes take on depth just as did the old stereoscope view cards, which were a familiar part of every living room, as years gone by. How to account for this strange phenomenon in movie shots, I have been unable to find out, unless it can be attributed to the high contrast and fine grain of the positive emulsion. (The benefits of this contrast, fine grained emulsion in making titles, copy-print maps, fine drawings, etc., are well known to motion picture laboratories everywhere.)

In comparison to the regular reversal type, positive film has its limitations, of course, but generally speaking, for outdoor use it rates favorably with the regular orthochromatic type films. Because its speed is somewhat slower, however, the use of positive film requires opening the lens a little wider than normally. As a general rule, a difference of about one stop will be sufficient, over that necessary when using an average, medium speed film. The following exposure chart may prove helpful in serving as a guide, although the figures are only intended to be approximate:

When it comes time for processing, there are many independent laboratories who will undertake to reverse the positive film, usually at a very nominal fee. The charge for such service is often less than the original film cost of one cent per foot. The Superior Bulk Film Co., 188 W. Randolph St., Chicago, Ill., and the Flomader General Co., Davenport, Iowa, are but two concerns which operate laboratories equipped for reversal processing. Those desiring to slash expenses still further, and who have ample time and patience to do so, may be interested in carrying out this procedure themselves. Many fine home processing outfits are available, several of which may be obtained from the above mentioned companies, who can also supply the necessary chemicals and instructions. When a reasonable amount of care is exercised, the work really isn't very difficult at all, especially to anyone already familiar with dark room methods.

Considering that 100 feet of 16 or double 8 millimeter positive film can be shot at a total cost of less than two dollars, I think it will be agreed that home movies need not be as expensive, after all. As in other type film, however, have I found the same combination of economy coupled with quality, bar none. Everyone knows how movies far

(Continued)

Subject	Lighting Conditions		
	Foot-candle	Ratio	Shutter
Direct landscapes, water, mountains, and snow scenes	1 : 1	11 : 1	11 : 1
Open landscape groups, swimming riviera, etc., with no heavy shadows	11 : 1	11 : 1	11 : 1
Forests, groves, backyards scenes, etc., in light shade	11 : 1	11 : 1	11 : 1
Non-landscape scenes in deep shade	11 : 1	11 : 1	11 : 1

Figures given are for normal speed film, 16 frames per second, unless otherwise stated.
This exposure chart is for the period from 1 hour after sunrise until 1 hour before sunset, using 81 light.

For side-lighting, increase lens opening 1 stop.
For back-lighting, increase lens opening 2 stops.

surpass ordinary snapshots, so far as entertainment value is concerned. By using positive film, cinematography can compete with still photography from an economy standpoint.

To be sure, movie making CAN be an expensive hobby; it NEED NOT be.

Artistic Pictures

(Continued from Page 348)

road, river, log and so on. So "lead in" at the side and do not center your main object, but place it about one of the interesting points according to requirements. To digress very often we are dragged to mountain tops for famous views. Mostly very disappointing. The part is more interesting than the whole, conventional, restlessness—a picture about a particular thing. These are the elements of good shots. In distant views there should be somebody or something in the foreground.

If you look at a possible subject for a photograph you should form the habit of framing it with your eyes. You will soon find yourself making out thousands of artistic scenes. If there is any action about you may as well have an artistic setting for it.

Scenic pictures are mostly based on elliptical or circular construction. Many of the world's greatest pictures are as the same pleasing lines. The elliptical arrangement is a safeguard against the eye wandering out of the picture as can easily happen with other more rigid construction. This is the reason why we frame views with trees and branches—they help to keep the eye about the main interest. Look around at good pictures, paintings and drawings, etc., and see how often these points occur. The drawings reproduced with this article will give readers a good idea of what to do and what to avoid in making artistic pictures, and acknowledgment is made for using them to Mr. W. L. F. Washell, Part President, R.F.S. (England), whose authoritative explanations and drawings on "Composition" to "Amateur Photographs" are widely known.

In Fig. 4 we have the vanishing point of the street in the center of the picture. This allows divided interest. There must be only one main subject and that

New Filmsound Library Releases

Riders of Death Valley (Universal): 15 episodes, 35 reels, \$5 per episode.

Vigilante battle claim-jumpers in search for the fabled lost Arctic mine. After it is found there is a thrilling sea-saw battle to hold it. Every type of action thrill known to the chapter-play is cranked on this super-serial. The cast alone is guarantee of its extraordinary quality: Dick Foran, Leo Carrillo, Buck Jones, "Big Boy" Williams, Charles Bickford, Jeanne Kelly. Available for approved non-theatrical audiences.

Batch Made the Baby (Universal): 8 reels, \$17.50. Virginia Bruce, Brod Crawford, Dick Foran.

The story centers around Crawford. One more conviction will send him back to Sing-Sing for life. Crawford decides to give up his "profession" of auto-cracking, and works as a janitor. The baby and he become great pals; then his old mob moves in and attempts to force him to pull one "last" job. How he gets away with it provides suspense, laughs and more than a few moments of genuine pathos. Virginia Bruce as the widowed mother of the baby, and Dick Foran as the police parole officer contribute a low interest. Available for approved non-theatrical audiences after September 20, 1943.

should be in the vicinity of one of the converging lines of Fig. 1.

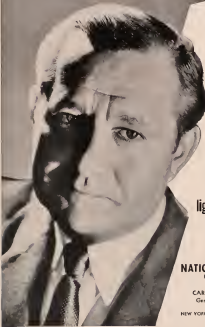
Fig. 5 shows the corrected view of Fig. 4. The vanishing point is well to the side and a little lower. There is variety and shape in the picture, and it becomes more pleasing. A human figure increases the interest and leads towards the vanishing point.

In Fig. 6 we find straight lines across the picture, and while the house may have some architectural interest, it is not pictorial, and has no suggestion of good composition.

A change of viewpoint, as in Fig. 3, is far more satisfactory. The lead "leads in" from the side, and carries a suggestion not of one particular cottage, but of many similar buildings.

Note: The above article is reprinted from Movie Maps.

ARTHUR E. EDISON, A.S.C.



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on a big set,
you thank your
lucky stars for
the ‘punch’ and
carrying power
of modern arc
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A.S.A. Prepares First Standards For Roll Film

New P.S.A. Index

THE American Standards Association has just completed the first standards ever prepared for the ten sizes of amateur roll film in most common use for snap shots.

Eighteen dimensional standards with appropriate working tolerances cover the ten sizes, seven of the spool standards applies to 2 sizes of film and one of the film standards is used with 2 different spools. Nine of these apply to film spools and nine apply to the film itself and its backing paper. Two other photographic standards approved at the same time apply to the dimension of photographer paper—centimeter-size sheets and rolls, and inch-width rolls.

Amateur roll film consists of a length of sensitized photographic film attached to a continuous strip of backing paper which is substantially longer than the film, as anyone who has ever developed his own film knows. The film and the backing paper are wound on a flanged spool to provide a unit which can be loaded into a camera and removed, after exposure, in daylight.

This familiar article of commerce and sentiment and not is used, in a camera, to produce on the film strip a series of negatives, the position of each of which is governed by centering a series of numbers—printed on the backing paper—within a small window in the back of the camera.

The first daylight-loading roll film was introduced to the photographic world as early as 1886. It represented a major step in the field of amateur photography. The growth of film photography has progressed to a point at which substantially more than a hundred million rolls of film were being produced annually by the American manufacturers before wartime necessities compelled a reduction.

Some of the film sizes included in these standards date back almost to 1886, although many newer dimensional changes have been made in them as production methods have improved and as camera designs have dictated more rigid tolerances. In some cases, moreover, film lengths have been increased to permit more pictures to appear on a roll.

No published data have been available throughout the years on the dimensions used by any manufacturer. Camera-makers, consequently—and particularly those who were not also film-producers—had to rely, in designing new cameras, on their own measurements of spools and films purchased on the market. It is little wonder, therefore, that some cameras did not function properly, or that they per-

formed satisfactorily with the film of one manufacturer and not with that of another—because of slight differences in the tolerances used by the manufacturers. Dimensional limits, tolerances and variations, had to be set up for the various spools in order to insure interchangeability in cameras and also to provide adequate protection for the film against unwanted light.

The films covered by the standards are those which give pictures of the sizes listed below and are designated by such manufacturer as follows:

General Picture Size (in inches) 1 1/2 x 2 1/2 1 3/4 x 2 1/4 2 x 2 1/2 2 1/4 x 2 1/4 2 1/2 x 2 1/2 2 3/4 x 2 1/4 3 x 2 1/2 3 1/4 x 2 1/4 3 1/2 x 2 1/4 3 3/4 x 2 1/4 4 x 2 1/2 4 1/4 x 2 1/4 4 1/2 x 2 1/4 4 3/4 x 2 1/4 5 x 2 1/2 5 1/4 x 2 1/4 5 1/2 x 2 1/4 5 3/4 x 2 1/4 6 x 2 1/2 6 1/4 x 2 1/4 6 1/2 x 2 1/4 6 3/4 x 2 1/4 7 x 2 1/2 7 1/4 x 2 1/4 7 1/2 x 2 1/4 7 3/4 x 2 1/4 8 x 2 1/2 8 1/4 x 2 1/4 8 1/2 x 2 1/4 8 3/4 x 2 1/4 9 x 2 1/2 9 1/4 x 2 1/4 9 1/2 x 2 1/4 9 3/4 x 2 1/4 10 x 2 1/2 10 1/4 x 2 1/4 10 1/2 x 2 1/4 10 3/4 x 2 1/4 11 x 2 1/2 11 1/4 x 2 1/4 11 1/2 x 2 1/4 11 3/4 x 2 1/4 12 x 2 1/2 12 1/4 x 2 1/4 12 1/2 x 2 1/4 12 3/4 x 2 1/4 13 x 2 1/2 13 1/4 x 2 1/4 13 1/2 x 2 1/4 13 3/4 x 2 1/4 14 x 2 1/2 14 1/4 x 2 1/4 14 1/2 x 2 1/4 14 3/4 x 2 1/4 15 x 2 1/2 15 1/4 x 2 1/4 15 1/2 x 2 1/4 15 3/4 x 2 1/4 16 x 2 1/2 16 1/4 x 2 1/4 16 1/2 x 2 1/4 16 3/4 x 2 1/4 17 x 2 1/2 17 1/4 x 2 1/4 17 1/2 x 2 1/4 17 3/4 x 2 1/4 18 x 2 1/2 18 1/4 x 2 1/4 18 1/2 x 2 1/4 18 3/4 x 2 1/4 19 x 2 1/2 19 1/4 x 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AMONG THE MOVIE CLUBS

Westwood Gadget Exposition

Last year several hundred avid movie makers flocked to the Gadget Exposition of the Westwood Movie Club of San Francisco. Those who attended were more than pleased with both the educational and entertainment features of the program. For obvious reasons it will be impractical to duplicate the Exposition this year on the same scale.

However, for the real gadget lover the program this year will be even more intriguing than last year's, as more time will be available for detailed operation and explanation of a variety of movie gadgets which the committee in charge is gathering together. Price winning picture will also be shown.

All interested movie makers are cordially invited to attend this open meeting, to be held in the Westwood Movie Club's room at San Fernando Way and Ocean Avenue, San Francisco, California, Friday night, October 29th.

Utah Cine Arts Club

The first meeting of the fall season of the Utah Cine Arts Club was held the evening of September 15th at the Salt Lake City Art Center.

Highlighting the meeting were a talk by Dr. C. Elmer Barrett on "What To Do With Summer Footage," and a demonstration by F. K. Fullmer on "Step By Step Editing." Dr. Barrett had many helpful suggestions to offer the members who are planning to use their summer footage in the coming award competition.

A bit unusual was the talk by Mr. Fullmer on editing, for an entire feature film by Jack Andrews was shown and discussed. This same film will now be edited in time for the October meeting along the lines suggested by Mr. Fullmer.

Syracuse Movie Makers

Following are the new officers of the Syracuse Movie Makers chosen at the club's recent election: Nedford S. Olney, President; Robert F. Kimber, Vice-President; Walter Kellogg, Secretary; Seymour C. Ratten, Treasurer; Roy Patterson, Sound Technician; D. Louis Conway, Corresponding Secretary. The following were named to a newly created Advisory Board: Archibald D. Hodges, Maurice H. Schwartzberg and Karl Albholt.

At the club meeting on September 7th and 21st plans were discussed for the production of another club picture.

Metropolitan Motion Picture Club

Three outstanding films were on the program of the September meeting of the Metropolitan Motion Picture Club, held in the Victoria Room of the Victoria Hotel, New York City.

Pictures shown were, "New Hampshire On Parade," by Fred Ellis, "The Annual Country" by Frank E. Gamble, and "Elber Bound Spirit" by Leo Hoffmann. Eleven new members were added to the club rolls in the past month. They were: Alfred J. Colombo, Mrs. Hazel Colvill, Arthur J. Devine, Edwin A. Ehlers, Lt. Col. Frank J. McLaren, Jr., Carol Pinsky, W. T. Peterson, Arthur H. Schwartz, M. S. Chakman and Charles S. Lecht. Alice Burnett was elected Secretary of the club, replacing Bob Cole, who is in the armed service.

L. A. 8mm. Club

THE Los Angeles 8mm. Club held its regular meeting on Tuesday, Sept. 14th in the Bell and Howell Auditorium.

It was "Gadget Night" and the members displayed their various and sundry devices. Included were trailers, spot light, iris fading unit, focusing tube and alignment gauge, cable release, editing stand, dual turn tables and sound equipment and lastly, a "Dream Camera" complete with all the fixings including motor drive and brake for slow down to 1 frame per second.

The film fare included "Caught Short," a contest winning film by Mrs. Marie Williams, a vacation film by J. G. Hogue, and "Being or Believing," a reverse motion film by Fred Evans.

Long Beach Cinema Club

Two interesting meetings were held by the Long Beach Cinema Club during September. At the first meeting, on September 1, 1250 feet of films were shown. They included five 100-foot reels from Val Pope, a 400-foot 8mm. black and white, "The Qashqangi," by Mr. and Mrs. Frank Kallenbach, and a 368-foot 8mm. Kodachrome, "Rogue Women," also by Mr. and Mrs. Kallenbach.

Hal Hall, editor of the AMERICAN CINEMATOGRAPIHER, was the guest of the club at its meeting on September 15th. He spoke on the part that cinema clubs can and should play in the war effort and in the post-war reconstruction period.

San Francisco Cinema Club

MEMBERS of the Westwood Movie Club were guests of the San Francisco Cinema Club at its meeting the evening of September 21st. After a joint dinner at the Women's City Club, seven films were shown.

The program consisted of "Visiting Nurses," by Dr. J. Allyn Thatcher and Jesse Richardson; "My Garden," by Ed Frenke; "Fantastic Formations," by R. Arfsten; "The Artist and the Model," by Ed. Sargent; "Kodachrome Slides," by Leon Gagne, Henry Swanson and Eric Unmack; "Apartment Victory Garden," by Clyde Wortman; "San Francisco—the Story Book City," by L. A. Russell Henson.

Saint Louis Club

Following are the newly elected officers of the Amateur Motion Picture Club of St. Louis: Paul G. Scholz, President; Warren R. Becker, Vice-president; Vernon L. Rosenmann, Vice-president; Leo Wheeling, Treasurer; Neil W. Buttinger, Secretary; Ben E. Botta, Director; Walter L. Michener, Director.

Tri-City Cinema Club

PREPARING for an active fall and winter season, President Georgia T. First of the Tri-City Cinema Club has appointed the following to the program and membership committees: Program, Tony Gribberg, chairman; C. F. Sank, Robert Spitznagel and A. R. Brown. Membership, Jesse W. Nixing, chairman; Roger Swenson, Elmer Jensen, W. W. Walker, Peter De Van and John E. Hoffman.

Color Slide Salon

Of interest to the many movie makers who also make color slides is the announcement of the Fort Annual American Color Slide Salon, which is sponsored by the Photographic Society of America.

This salon is the first ever held for color slides and will give the public an opportunity to see the best work being done in this field. Slides will be exhibited by panel and by projection, at the Art Center Chicago from Dec. 6 through Dec. 18. Deadline for entries is Nov. 29, 1943. Entry forms may be obtained from Blanche Kolank, 3824 S. Central Park Ave., Chicago, Ill.

Railroad Ramblings

By F. M. HIRST

REMEMBER the days when the cry of "All Aboard!" sent a ripple of jeyen excitement surging through your veins? When the clanking rails sang their song of adventure—of far-off mountains and tumbling waterfalls and torrential streams, of sunny days on the beaches and visits to the folks back on the farm?

Since early childhood we have been fascinated by the sights and sounds of these fiery steeds. Our imagination has kept pace with the mad rush of the engine, and our thoughts have wandered off like the graceful streams of smoke in its wake. To hear a distant train whistle on a rainy night quickens the pulse and causes a restlessness and a longing to be on the move. It conjures up fond recollections of the trips we used to take before the war. Though trips are "out" for the duration, we can re-live our adventures with projector and screen, and hope for the day when we can again make movies of trains.

We have a penchant for shooting train movies. The old adage "Once bitten, twice shy" does not apply to railway movies, for the bite of this bug is infectious. If the first bite takes (and it generally does), endless hours will be spent making movies of trains. The desire to shoot more of these "bebe-moths of the rails" is insatiable, and before long, another addict has joined the already long list of railroad movie makers.

Ten years have passed since we first shot movies of trains and we can well recall our first scene. From the crest of a hill a peaceful landscape spread below us—grassy rolling farmlands and wooded slopes, with a stream in the lowlands. The shadow of a cloud moved across the face of a distant hill, adding just enough movement for pictorial interest. Then it happened! A train roared into our scene and was gone as quickly as it came. From that day on we have been hard into waiting in strange places hoping for trains to appear. Like fishing, the best ones always get away. Many times we have waited, camera in hand, longing for action, and when no action occurred, put the camera away just at the psychological moment. Isn't it exasperating!

Moving trains add immeasurably to landscapes but such shots eventually get monotonous by their repetition. The problem which faces us from now on is how to utilize such scenes to the best advantage. Should we scatter them throughout a scenic film to add animation, or should we build them up and

make a railway film, packed full of action? Personally, we have used both methods but prefer the latter. A film containing action which progresses from scene to scene should be the goal of all movie makers, and railroading is made to order for such a film. It contains no plot (and plots seem to be a stumbling block for most amateurs), but its action can be continuous and satisfying. Its actors are the numerous and ever-present railroad employees, passengers and spectators. It abounds in human interest and thrilling action. The action which takes place on a station platform seems to be so commonplace that it is ignored by most people. By observing the sequence of events which happen when a train enters a station, or the preparations which take place just before it enters, one is able to plan a method of registering such action on film. It is chock full of human interest and has good entertainment value when shown on the screen. It can readily be seen that here is the material for a good film. It has been used time and again by news photographers and amateur movie makers; we have seen it in illustrated magazines, in travelogues, in advertisements. Anyone who agrees to make a complete film (and who doesn't?) will find railroading to be a fitting subject with universal appeal.

To add a touch of realism, sound effects records of all kinds of train noises may be obtained to augment the pictures. The choice of film is of course optional, but our preference is Kodachrome. One may think that it is a waste of money to use color on a black engine, but this shiny monster will reflect the blue of the sky in its high lights and polished surfaces. Then there is the brass bell glistening in the sunlight, and the blue overalls of the train crew as they work on the engine. A casual glance fails to reveal the seemingly hidden colors that will be brought to light by the use of color film. So for natural beauty and fuller enjoyment of railway pictures, by all means use color film.

In the past, movie makers who traveled on transcontinental trains had wonderful opportunities for shooting this subject. These trains are served approximately every 250 miles. It is interesting to watch mechanics wield enormous grease guns. While this is going on, other crew members are climbing over the engine, each doing a specific job. There is so much to shoot that one should take his movie camera up front at each service stop in order to



photograph the engine for a complete sequence.

After the sequence of servicing the engine is completed, there are many other interesting activities to be filmed. Blocks of ice on trucks are ready to be loaded into the cooling systems of the various cars. On a sunny day, with a blue sky overhead, ice reflects blue tinged with green, and along the broken edges can be seen the colors of the solar spectrum as the light rays are decomposed or dispersed by refraction through these prisms of ice. On the top of the car, the crew is busily lowering these blocks into place, while on the platform pullman porters chop the ice for cooling the drinking water. Don't miss the opportunity of shooting a pullman porter as he pauses on the step to give a big smile. A rich chocolate colored skin and a smile is a happy combination that will bring cheerful reaction from any audience.

Further along the platform we find window washers flooding away the dust of the recent journey, baggage being

(Continued on Page 378)

Railroad Ramblings

(Continued from Page 377)

loaded and unloaded and cars being added to the train. Passengers climb aboard and a congenial conductor will pose as if giving the signal to start. Try for shots of other trains while at these various stops and use them to fill in the gaps for continuity—for instance, a shot of an engineer as he pulls the whistle cord prior to starting, the first puffs of exhaust from the stack as the engine starts, the bell ringing, steam spouting from the piston and the driving wheels beginning to turn. Then take shots of the train moving past the camera, a view of the back end of the train as it pulls out of the station and recedes. Edit these shots in their proper order and a thrilling cinema journey has begun to unfold.

Good train shots (especially those taken from a moving train) can be made only with the aid of a tripod. Before the train leaves the station, place the camera and tripod on the observation platform. Be sure that the camera is level and the horizon straight, then lock the tilt and pan head securely. As the train is pulling out of the station start the camera running. The films will find that it is impossible to look through the flange while the train is in motion, due to the vibration and movement. This vibration does not seem to register on the film, although some filmers prefer

to run the camera at a higher speed as an added precaution. Personally, we prefer normal speed, for it gives a more natural effect on the screen.

The fact that the camera has been centered on the track will insure the correct perspective. As the train gains momentum, brace yourself and keep the tripod pressed firmly to the floor of the car. When interesting scenery passes by, press the lever for a normal length shot—you need not bother with the view finder once the camera is set, but do not neglect your exposure. I find that the best meter reading is obtained by tilting the meter slightly downward and avoiding too much sky light. In this way the browns of the earth and the greens of the trees and fields will be properly exposed. You may find that your sky may not be as blue as you like it, but the scenery which you enjoy will register correctly.

Should you be as fortunate as we were, to be on the observation platform of a 26-car train, it is simple to vary your shots. Each time the engine made a turn it was possible to photograph nearly the whole train as it rounded curves and crossed bridges. Allegorically, it was a slow-moving red serpent twisting its way in an S turn to enter a hole in the side of the mountain. From the tunnel on the other side it emerged to follow its tortuous route through the Fraser and Kicking Horse canyons, till the mountains were roof-topped by the setting sun. A sequence of sunset

colored mountains growing progressively darker until the rails disappeared in golden ribbons ended the picture. In this manner we photographed the Canadian Rockies from Vancouver to Banff.

After the war, when military restrictions are lifted, we hope to be able to continue our railroad movie making. When that time comes, do not misunderstand and think that one has to take a transcontinental trip in order to make a good railroad movie. Nothing is farther from the truth. All that is required is a movie camera and a railroad, and a little imagination. Why not go to a local station and photograph several trains as previously described? This will be your start to which more shots can be added from time to time. It would be a mistake and very disappointing to try and complete such a film with one try. The next step would be to board a train, even though it is only to the next station stop, and shoot your scene of the station receding in the distance. Also try a few shots along the way to be cut in later.

Carry your camera with you when out for a ride in the car. Shoot head-on views of trains from low angles, trains crossing bridges over streams, through scenic stretches, passing grade crossings. Shoot from bridges looking down on the train, trains rounding curves. The possibilities of views and angles are too numerous to mention. Finally, bring your train back into the station, showing it coming in from a distance to a full stop.

Some time ago a movie contest was held in which each contestant was to produce a complete picture on 25 feet of film, or 50 feet of 16mm film. The subject matter was left to the choice of the individual. A new blue and silver streamlined train had just started to run. Here was just the right subject for a film. We planned a short scenario and then proceeded to get the necessary shots. We had two opportunities each day to make our shots so this train passed through early in the morning and again at noon. Work expedited the morning shots, so a number of early trips into the countryside were required. It may have seemed like a hardship but the results were worth the effort.

When a sufficient number of railroad shots had been acquired, all that was needed to finish the picture was a few actors. We asked our maid if she could pose into service a few colored children to play the parts. The next day we received an answer: "Lawdy," she said, "yes! but here a hea to hold all the children that wants to ack in yo' movies." At the appointed time, when we arrived to pick up the children, we noticed dark faces and the whites of inquisitive eyes peering from windows and doorways. Our destination was a railroad track, that was very seldom used.

The film was titled "Peris of Paul." The story opened with two colored boys thumbing a ride on the roadside. All

(Continued on Page 381)

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Hands Are Nice

[Continued from Page 365]

tried to get her to either do something with her hands or hide them plausibly?

Simple posturature is the matter of studying one's subject—then shoving lights around until the general effect accomplishes a result which pleases the photographer at the moment, and stimulates the hope that he will be accorded some agreement when she looks at the proofs.

Up to this point the problem is not too complicated. Of course, one meets varying interpretations of the term cooperation, depending upon whether the sitting takes place off stage between takes, or in the gallery after a long day on the sets. Amazingly, most of our film girls take posturature under certain of these circumstances that would tax the physical, if not the temperamental, stamina of more robust males.

But posturature is not always simple, even with most of the elements in one's favor. Photography of the human form divine discloses the distressing fact that divinity represents an ideal which is but loosely interpreted in substance!

A young girl, who has survived a screen test, is known to possess most of the physical attributes which correspond to the current appraisal of "pulchritude." The less tangible but more important quality, charm, is one that cannot be cultivated consciously, nor can any director in the world wheedle, cooie or shout it into existence. The amazing thing is that even when these girls do possess charm as well as the other qualities of beauty, most of them do not know what to do with their hands when they get before a still camera.

In actual operative practice, lighting of the face takes priority. Posing the subject is a cross between what the photographer wants and what he gets. Results are a compromise, and limited to only three considerations—time, disposition and the beardance of eight by ten.

Disposal of hands is therefore a problem of either not showing them at all or including them in such a way that they shall appear either expressive or attractively functional. Expressive hands need not be actually beautiful from a purely physiological view. They can reflect character; and they must, if the individual has any character to reflect.

I've experienced the least difficulty in the photography of girls who have had the advantage of dance training. Not "rag cutters," but the oval disciples of Terpsichore. They have learned that "every little movement has a meaning, etc." One has only to think of Ruth St. Denis to know what I mean.

When a hand must appear as necessary my effort is to minimize its breadth. This is done by never allowing it to be shown "full face." It is usually comfortably or naturally dropped, palm upturned, in the lap. Or it can be draped at the waist, with most of the fingers back stage, or so placed as to show it "on edge."

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Like confections in a culinary triumph, hands should never extricate themselves into a picture beyond the point of offering the consciousness that they are a complement—indeed, a complement to the ensemble.

I cannot ignore the circumstance that the Hays censorship office has never deleted pictures of seductive hands.

New Alga Plant

A GFA ANSCO recently announced War Production Board approval of the erection of a new \$1,500,000 addition to its film plant in Binghamton, N. Y. Construction has already begun and schedules call for the new plant to be in production late next spring.

The addition, 25 x 450 feet, in three and four story sections, will house a new film coating unit which will materially increase coated production and enable the company to supply still larger quantities of film to the Army and Navy.

Buy More Bonds

Evolution of Transparency

(Continued from Page 382)

point units could hardly be blamed that they did not produce the specialized equipment we so urgently wanted. The market was far too small, and the customers for too individualized to permit even the pseudo volume production known in the manufacture of ordinary professional cameras and projectors. One studio might prefer Bell & Howell type movements for their projectors; then neighbor across the fence might demand Mitchell-type registration. What one expert liked in a lamphouse or lens, the next man might condemn. The poor manufacturer simply could not afford to assume the expense of engineering a product of which he might sell but two or three single units.

Realizing this, a group of us, under the general sponsorship of the Research Council of the Academy of Motion Picture Arts and Sciences decided to attempt to get the industry's process specialists and the various manufacturers and engineers involved together, to the

end that we might at least try to set up industry-wide standards and specifications for such equipment, from which the several manufacturers involved could build equipment which would stand a chance of satisfying the majority of the industry's transparency-shot specialists.

It was not an easy task to do this. An infinite number of personalities, professional suspicion and "trade secrets" were involved. But finally we managed to get together all of the industry's leading process-shot specialists, and with them the best engineering brains of the firms manufacturing cameras, projectors, lenses, eye and magnifying lamp-houses, and so on. At first, I must admit, the sessions of this committee were something like a gathering of rival—and highly suspicious—tombcats. Nobody wanted to make the first move, and nobody wanted to be the first to withdraw, either.

But finally, as one or two of us began to make completely frank statements about our methods, plans and problems, the others saw the advantages of wholehearted cooperation, and the committee

became a fully cooperative unit. We threshed each problem out extensively, from every angle. Finally, as I reported to a previous convention some two years ago, we set up a series of specifications for equipment, including basic specifications, which represented definite requirements; auxiliary specifications, which were desirable methods of meeting these requirements; and necessary specifications, which indicated features that were desirable, but not indispensable. Up to this point, the project represented well over 2,500 man-hours of technical effort, and combined the views of approximately 50 experts in the field of process projection cinematography. The specifications set up were so much beyond our immediate requirements that it seemed almost over-optimistic that they could ever be completely realized.

The start of this project was in 1938. The specifications were approved in 1939. During this past year, the first complete equipments built to these specifications have been delivered and placed in service. The details of that equipment will be presented at another time; but I would like to go on record here as stating that in all respects the manufacturers have met the specifications, and in some instances, actually exceeded them.

At the Paramount Studio we now have four of these Academy Standard equipments in operation. Several more are on order, but it is likely that their delivery will be held up "for duration." Each equipment forms in itself a complete unit for conventional single-head transparency projection, affording disarming power and convenience of operation absolutely unknown hitherto. Any one of these "singlets" will permit us to make shots—either in black-and-white or in Technicolor—which would previously have demanded double- or triple-head projection only a short time ago.

For scenes which demand even greater scope, any three of the new heads and any three of the new lamphouses can be assembled into an extraordinarily efficient triple-head equipment by simply removing them from their usual bases and attaching them to our new standard triple-head base.

In this triple-head work, as I believe has been explained in papers presented at previous conventions, three complete projection mechanisms are used. The center one faces directly toward the screen; the two outer ones face inward, and their images are reflected to the screen by means of front-surface mirrors. The three images are accurately superimposed on the screen, effectively tripling the intensity of illumination on the screen. By manipulating the respective intensities of the three light-sources, or the densities of the three background prints, a very considerable degree of control of the intensity of the projected composite image is possible. The superimposition of the three images also tends to eliminate the problem of

(Continued from Page 382)

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Academy Still Show

THE third annual Still Photography Show of the Academy of Motion Picture Arts and Sciences will be held Nov. 26, 27, 28. As in the past two shows, only winners within the film industry will be qualified to enter pictures.

At a meeting of the still photographers and Academy and union officials, the following classifications were agreed upon:

Best portrait, male (closeup), female (closeup), of more than one person (closeup), best character study, male, female, best posed production still, in a studio, with studio control of conditions and lighting, cut-of-door, production-still natural light. Best action production Still posed in studio with studio lighting; unposed in studio, with studio lighting; posed cut-of-door, unposed cut-of-door; best glamour picture, best candid shot, best poster art, best fashion study, best pin-up art of the year, best picture in relation to the War effort.

All still pictures photographed between June 1, 1943, and Sept. 1, 1943, will be eligible for consideration. Announcement of various exemptions, prices and location of the exhibit will be announced later.

New B. & H. Superintendent

The Bell & Howell Company announces the appointment of a new General Superintendent for their Eastwood Avenue Plant in Chicago. He is Mr. I. G. Wilcox, recently the Superintendent of Parts Manufacture at the Rockwell Plant, formerly engaged in tool study, fixture sketching, inspection and production work. Mr. Wilcox has been with Bell & Howell continuously since 1938.

Railroad Ramblings

(Continued from Page 374)

cars passed them by so they wandered off to the railroad and started to walk the rails. The larger of the two made the best progress and was soon leaving the smaller boy behind. The small boy stumbled and caught his foot in a switch and the trouble started. While he was pulling frantically and calling to his companion the scene changed. We see the new streamliner starting from the station and gaining momentum as it travels through each scene. Cutting back, we find the larger boy dying to the aid of his companion. The train is weaving through successive scenes as we cut back and forth between the struggling boys and the train. Finally the larger boy, unable to free his companion, put his arm around the smaller boy and raises his other arm to cover his eyes. In the next scene we see the train rushing head-on toward the camera, and as it comes upon us, a title flashes on the screen, "Will he get free?"—then the next title "Continued next contest."

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Send YOUR IDEAS to us right now in a booklet from top—rank best comments of your ideas. You may want to make working model of a part. Drawing or designing skill or workmanship of model is not a factor. No IDEAS or who knows. But send the one you really like complete description—camera—Projector—both. There's no obligation. Competition closes midnight, Dec. 31, 1943. DeVry Corporation, 1111 Broadway Ave., Chicago.

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Evolution of Transparency

(Continued from Page 380)

gram, which is of course further minimized by the use of fine-grain film stocks in making these prints.

Some idea of the advantages we have gained through this triple-head technique and the more recent addition thereto of the greatly increased efficiency of the Academy Standard units, may be gained from the following figures. A few years ago, when we first had need for extremely powerful process-projection equipment for use in a Technicolor picture, we used what was then the most powerful single projection unit in the industry, the very fine one owned by Schenck Productions. This was so outstanding that it had received an Academy Award.

By actual measurement, this outfit enabled us to give our screen an illumination of 25,000 lumens.

Later, we developed our own first triple-head equipment—an assembly of the best units available before the present Academy Standard equipments became available. This enabled us to work successfully in black-and-white on a 24-foot screen, with an illumination of some 50,000 lumens.

Today, with the Academy Standard triple-head equipment, we have worked successfully on a 36-foot screen in black-and-white, and on a 24-foot screen in Technicolor, with a screen-illumination of 100,000 lumens.

It would seem that this would represent an ideal condition in transparency projection process work. But it does not. So closely does the demand for greater and still greater scope keep crowding on the heels of technical developments that it has already proved inadequate in at least one instance. In making several recent productions we have had the problem of using a projected background in some highly important, very large-scale sequences and doing them in Technicolor. Due to the requirements of stories, action and setting, screens of 24 feet in width—or even 36 feet, the largest available—would have been completely inadequate.

For example take the case of a Fort Pitt picture we were making in color. We finally compromised on a total spread of 48 feet of background-screens width! Even more would have been desirable, could we have obtained it.

To achieve that, which I believe to be one of the largest projected process-shots thus far attempted, in either monochrome or color, we used two triple-head equipments, projecting on adjoining screens each 24 feet wide. For one of these, we employed our own Academy Standard triple unit. Since we did not have enough of the new heads to assemble into another complete triple, we used another triple, built by R.K.O., largely to the new standards. With these we obtained our shot, most successfully. Yet inevitably, the demands being made for future productions are already urging us to surpass these. We have just completed a number of these dual-triple color shots.

In making these shots, the projectors are never less than 70 feet from the screen, and often 100 to 150 feet distant.

This fact may help to explain to those of you who have not been so intimately associated with studio transparency process-projection work, something of the need for extreme precision in designing equipment for this service. When you magnify a single-frame motion picture image 14 1/2 inches in size to fill a screen 23 1/2 feet, you are at the same time magnifying every mechanical and optical imperfection in the equipment that projects it. Moreover, when you consider that in effect this enormously-magnified picture is at the long end of a seven-acre 100 feet or more in length, you will see that any irregularity of film-registration, and the like, in the original film or its passage through the projector will be disproportionately enlarged on the screen. It will show up as doubly defective in comparison with the steadiness of the actual foreground action as photographed by a modern studio camera. With the foreground steady, and the projected background portion of the scene badly unsteady, all illusion of reality would be lost in the composite scene.

It is a pleasure to report, therefore, that even though at the start of the project some of our speediness and tolerances seemed almost unattainably high to the manufacturers involved, they have in every case been equalled, and in some instances surpassed.

The convenience and precision of operating these new units should not be overlooked. The design has been so developed as to give as nearly as possible foolproof, and in some instances automatic operation in every way possible. Synchronizing of camera and projector, for instance, is automatically assured. Focusing is effected from camera position, by remote control. The projector

(Continued on Page 384)

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Letters From Our Readers

The following letter was received from Mr. J. P. J. Chapman, of Baysmouth, England, who herewith presents his ideas regarding what is needed in an ideal post-war camera and projector. We sincerely hope other readers will pass along their ideas, too, for publication in this magazine.—The Editor.

Dear Sir:—

I read with interest your remarks in the July issue on post war cameras and projectors, so perhaps you will be interested to hear from this side of the water. My remarks are, I think, shared by other serious workers, who are ever on the watch for something that will give just those extra results.

Lens Equipment—Four mounted on a revolving head, and as designed that the longest will not shadow any other. They must be quickly demountable, and the optical units so arranged that the lenses can be cleaned **INSIDE**.

Spring Run—One handed feet at the very least.

Direct Image Focusing—A better system required, with provision for cleaning the ground glass screen.

"Gadgets"—All those found on most good cameras, such as the Kodak Special-Gate.—Must be easy of access, quickly demountable for cleaning.

Film Track—Must be without excessive bends and twists.

Finish—A good serviceable hard wearing surface. Chrome-Plating is not suitable in sea atmosphere. There are plenty of other metals, and a dull finish is better.

Tripos—As this is so important extra, it can well be included. They are usually expensive and flimsy. A really good one, with a non-sticky head is greatly to be desired.

S.O.P. This would appear to be already well catered for.

Projectors—Nearly all sub-standard machines have many faults.

Frame or Body—Generally made of Aluminium or Dow metal, frequent demounting wears out threads. There should be hard brass inserts.

Machine Parts—Could be of more suitable material, and where steel is concerned, harder. Too great an effort has been made to produce a highly com-

pet "pretty" result, with consequent sacrifice of efficiency and quality. Design has not been considered, too many parts have to be taken apart to replace a faulty unit.

Film Tracks—Fed in and out should have as few sharp bends and twists as possible.

Take-up—Slipping belts are a poor compromise. A clutch which can be adjusted while running should be incorporated.

Gate—Rapid demounting and re-assembly, with 100% accessibility to all parts. Edge grip on film.

Picture shift mechanism, the remarks on the gate cover this equally. Single claw is not sufficient; I favor the octacrest.

Volt or Ammeter—Should not be in lamp-house, but mounted at side with pea light. Provision should be made that this is not overloaded if lamp blows, i.e., when machine is fed through a resistance from a high voltage line.

Blower—This soon chokes up, and cleaning is difficult. It should be demountable so that it can be washed in a suitable fluid.

Controls—Need individualization.

General—As 16mm has passed the stage of the turrety, it follows there will be a revolution in design incorporating many 16mm. features. The 8mm. can hardly be incorporated at the present juncture. Final decision rests with demand and production costs. It would seem to be a subject for the Academy of Research Council and the R.M.P.E.

As this is intended to be a letter and not an article, much has been glossed over.

Finally, but not least, there is much improvement needed in 16mm. sound. Sound Heads and Amplifiers need attention.

With best wishes, yours faithfully,

(Signed) J. P. J. CHAPMAN

Opens Syrian Office

A new branch office is being opened by Warrens in Beyrouth, Syria, with George Mazari as manager. Territory is under supervision of E. De Leon, manager of Warrens Cairo office.

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(Continued from Page 161)

hear it! Yes, we are able now to "hear" the sketch of a landscape. Musical harmonies are based upon mathematical proportions already in the lines of Michelangelo's masterpieces, Leonardo da Vinci and all the great masters of the Renaissance used to express their perception of the inner harmony of their works, as if they were touching the strings of some unknown musical instrument. . . The creations of these old masters give us the key to the golden door of a new sound world.

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"There is a sacred pastoral melody in the mountain ranges of California . . . There is a song . . . not as the composer envision it in their inspiration, but of the music that the architects, engineers and brick-layers, so unaware, had left in the lines of the skyscrapers of Manhattan . . . They shall be heard."

Spencer Announces New Test Chart

Announcement of a new photographic test chart is made by The Spencer Company, Mount Vernon, New York.

This chart measures 14x22 inches and is printed in the full color scale and can be used anywhere to test lenses of any type, focal length or speed, for any of the usual faults. The chart sets up tests for determining resolving power, color rendition and accuracy of speed ratings. Tests for flatness of field, linear and spherical distortion, astigmatism and other lens faults can be made. With this chart optimum aperture (best opening to use) may be found for each lens. Filter factors may be established as well as filter characteristics determined. Effects of supplementary lenses can also be checked.

A monochrome step-wedge included on the chart may be used for making gray scales, also for checking exposures and developers and for measuring gamma with sufficient accuracy for practical photography.

Glamour in Industry



Hollywood has no corner on beauty and glamour—proof of that statement is contained in the accompanying picture of Stella Prentiss. M-G-M likes it so well, they've asked Stella to come in for a screen test!

Stella's picture inaugurated a new feature—the Pin Up Girl—in the July issue of the *Pruders*, employee magazine of the Bell & Howell Co., makers of motion picture equipment and optical devices, now engaged 100 per cent in war production. The magazine is mailed regularly to the hundreds of Bell & Howell former employees who are now members of the armed forces.

Stella works in the Purchasing Department at Bell & Howell—one of the army of women on the home front, fighting the battle of production—one of the women behind the men behind the guns.

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Henriksen Promoted

Carl Henriksen, of the Bell & Howell Company, Chicago, Illinois, has been advanced to the Chief Production Methods Engineer post at their Rockwell Plant. Mr. Henriksen started with the Bell & Howell Company in 1922 as a toolmaker, in which capacity he served for six years. A transfer to the tool designing department was effected in 1928, and from there he was promoted to Chief Tool Engineer in 1932.

Cameramen in Uniform

(Continued from Page 342)

actual contact made only by aircraft; such was the case in the Coral Sea battle. An attack is sudden and short-lived, especially if your own fighter planes are on the job. An exciting daylight is out of camera range in seconds. The crash of a Zero is just a plume of smoke on the horizon.

Seven days after the battle of the Coral Sea, the Admiral in command of our Task Force ordered my ship to proceed to an Australian port, and but for a bit of luck I would have ended up there instead of returning to Pearl Harbor as I had planned. Our ship had a badly damaged plane and a replacement from a motor cruiser was ordered. Since a boat would return the aviator to his ship I quickly received permission to transfer to the ship which would return to Pearl Harbor, so with but minutes to strike the cameras and pack, I found myself bobbing around in the nose two calm and sub-infested waters of the South Pacific in a boat no larger than a cockle shell, or so it seemed, loaded to the gunwales with the returning aviator, a news correspondent, my enlisted man, the boat crew and all our cameras and personal gear. It wasn't until after we had been hunted safely aboard that I learned that just a few weeks before a boat from this same ship engaged in a similar transfer had expired, spilling two new photographers into the drink and losing their equipment.

On my return to Pearl Harbor I learned that Comdr. John Ford had taken a march on us and with one photographic specialist had personally photographed the Jap bombing raid on Midway Island. With his film and notes which was shot by Lt. Kenneth Pur the battle of Midway, I was flown via Clipper to Hollywood to prepare for the Navy Department a blowup to 16mm Technicolor of the 16mm Kodachrome film.

The first screening of the film revealed a very disturbing fault, the violent concussion of the exploding bombs had caused the film to jump out of frame in the camera aperture, but fortunately it regained its normal frame after a few feet. At first the film didn't seem usable, but since no other film of the explosions were to be had we put them in just as they were and the result, as seen in the public release of "The Battle of Midway," caused considerable comment by several Hollywood technicians who thought we had done this optically just to produce this effect.

Combat photography is extremely difficult and trying. The cameraman in uniform must be patient, yet ever alert, for when things do happen they happen fast and with no chance of a second take. You risk your neck and at best the results on the screen are not likely to be as spectacular as the effects produced every day in Hollywood. As one old time Naval Officer put it, "You guys must be braver men than we, or

also just plain nuts." I am sure the latter part of the quotation was his opinion.

But photography has proved its strategic value and is playing an ever increasing part in the winning of the war.

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Evolution of Transparency

(Continued from Page 342)

may be passed and tilted with the freedom of a camera, and with perfect precision.

Where hitherto these background projections have been at least as noisy as the average theatre projection, and more rarely had to be operated only from within a bulky, soundproof booth when shooting sound, the new Academy Standard units have been reduced to a degree comparable to the noise-output of a modern, blimped studio camera. Taking noise measurements at the usual 25-degree positions about the projector, at a distance of 4 feet, and using a meter which employs a 40 db ear loudness weighting characteristic, and calibrated with respect to the standard reference noise level of 10⁻¹⁶ watts per square centimeter, the noise level of our of these new machines is below 34 db.

These are not new conveniences in operation. They add very measurably to the productive capacity of the machines. With less convenient types of transparency process projectors, with their less convenient controls and the added bulk and complication necessitated by the big soundproof booths, we could not work particularly fast; two or three set-ups of "A-picture" quality were a pretty good day's work. Today, with the new units, we find we can work on projectors with all the speed and facility of any camera! Even with two triple-head projectors and in Technicolor, our production record shows that we reach along making from five to a dozen or more set-ups per day. In other words, the new triple-head combination of triple-head operators and the equipment has enabled us to turn out two or three times as many shots per day as had been previously possible.

Looking toward the future, I feel that the fact that the fifty members of this committee were able to cooperate in drawing up these industry-wide standards, and that the executive heads of several studios (not least of which were the officials of my own studio, Paramount) had sufficient confidence in the judgment of their technicians to back that judgment with sufficiently large orders for the actual equipment to find the manufacture could find it economically possible to engineer and build units to these high new standards, is bound to prove of incalculable value to the industry during the years that lie ahead. The war has long since had its effect on production—location trips are becoming less and less practicable. All coastal areas are in restricted combat zones, and photography—even under strict military supervision—is virtually impossible. The demands of the military services have already made a very noticeable drain on our trained studio personnel, and that drain will increase. Yet we must make pictures; they are vital and essential to the preservation of civilian morale in wartime.

In the production "For Whom the Bell Tolls" we made most of the modern and close-up shots, comprising more than 284 set-ups, most of which are in the finished release print. We only recently had five out of eight cameras shooting in one day doing transparencies, and utilized altogether eight equipments, including two trailers.

The secret, as we are already finding, is partly to be found in constantly increased use of transparency process shots, and of a constantly-increasing scope. Speaking with the utmost conservatism, it is safe to say that the fact that we now have this perfected equipment available in at least some studios has proven to be one of the industry's most valuable assets in continuing production during the difficult days we are now going through and that are ahead of us.

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